NASA Langley Research Center

presented to

NASA Advisory Council
Technology & Innovation Committee

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What Matters Next?

NASA Langley at a Glance (2010)

Langley's Economic Impact (2009)
National economic output of ~ $2b and generates over 16,450 high-tech jobs
Virginia economic output of ~ $920m and generates over 8,100 high-tech jobs

Founded in 1917
1st civil aeronautical research lab

~$800m Budget
~$685m NASA Langley budget
~$115m External business & 2009 Recovery Act

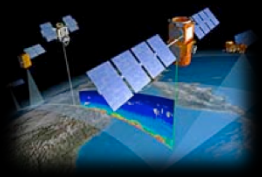
~3,800 Workforce
~1,900 Civil Servants
~1,900 Contractors (on/near-site)
(~260 students)

Infrastructure/Facilities
788 acres, 181 Buildings
~$3.3b replacement value

Aeronautics
$218m

Exploration
$94m

Science
$95m



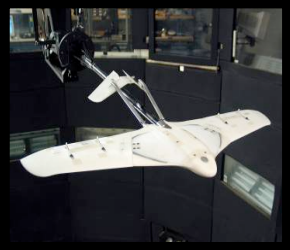
Space Operations
$6m

Education
$16m

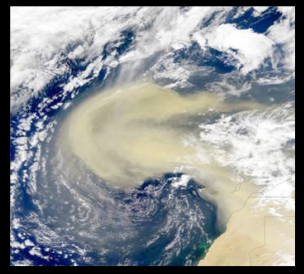
Cross-Agency Support Program & Construction/Environmental Compliance & Restoration
- Center Management & Operations
- Agency Management & Operations
- Construction/Environmental Compliance & Restoration

NASA Langley Core Competencies

Aerosciences
Research for Flight
in All Atmospheres

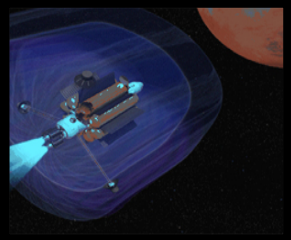
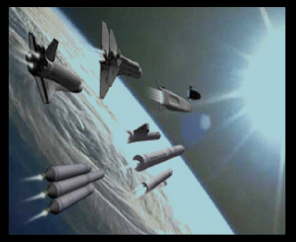





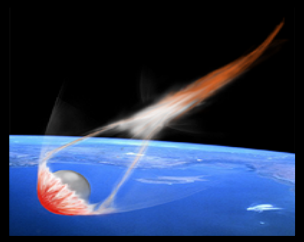


Characterization of all Atmospheres
(Lasers & LIDAR)

Aerospace Systems Analysis

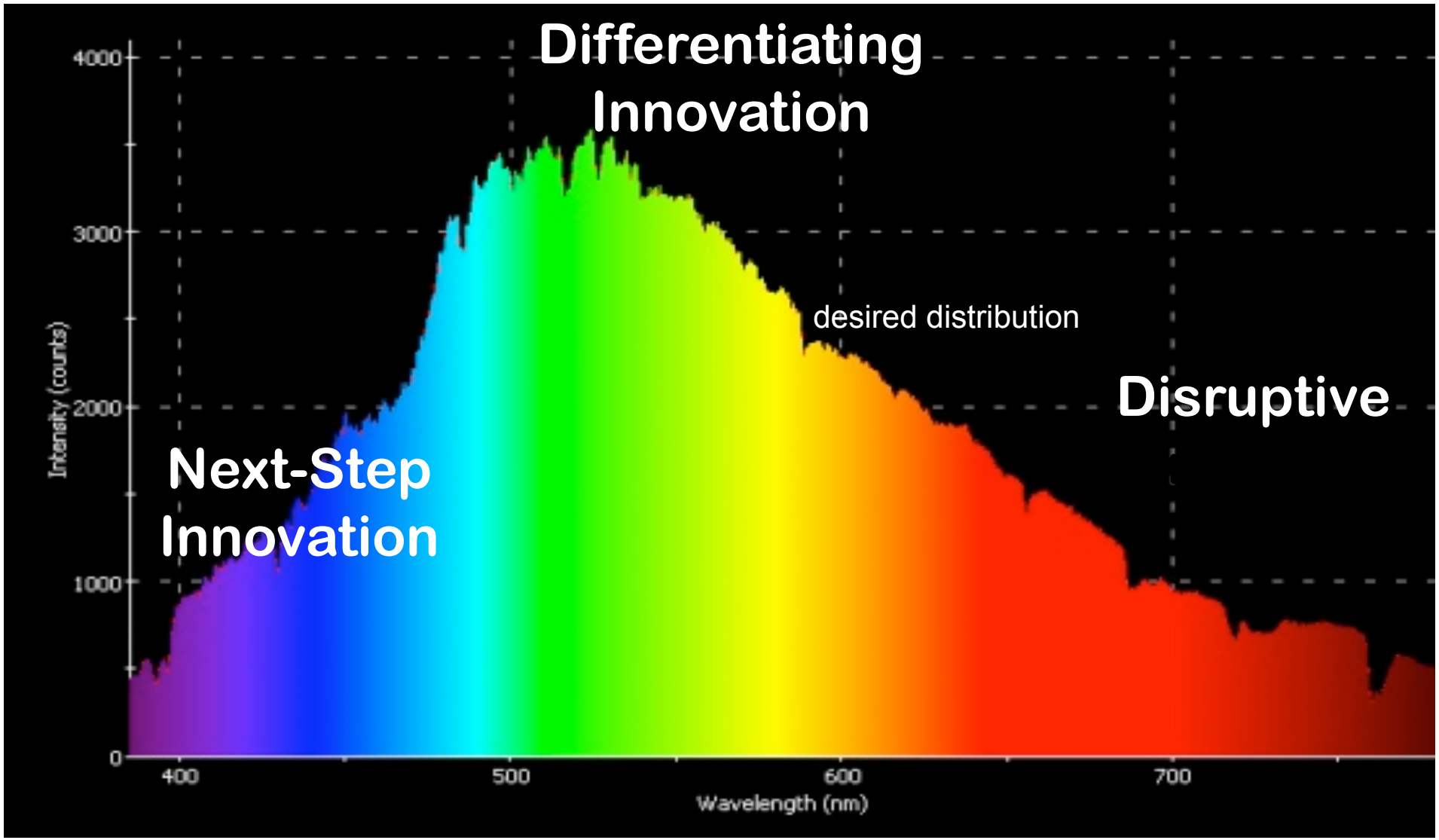
Entry, Descent & Landing



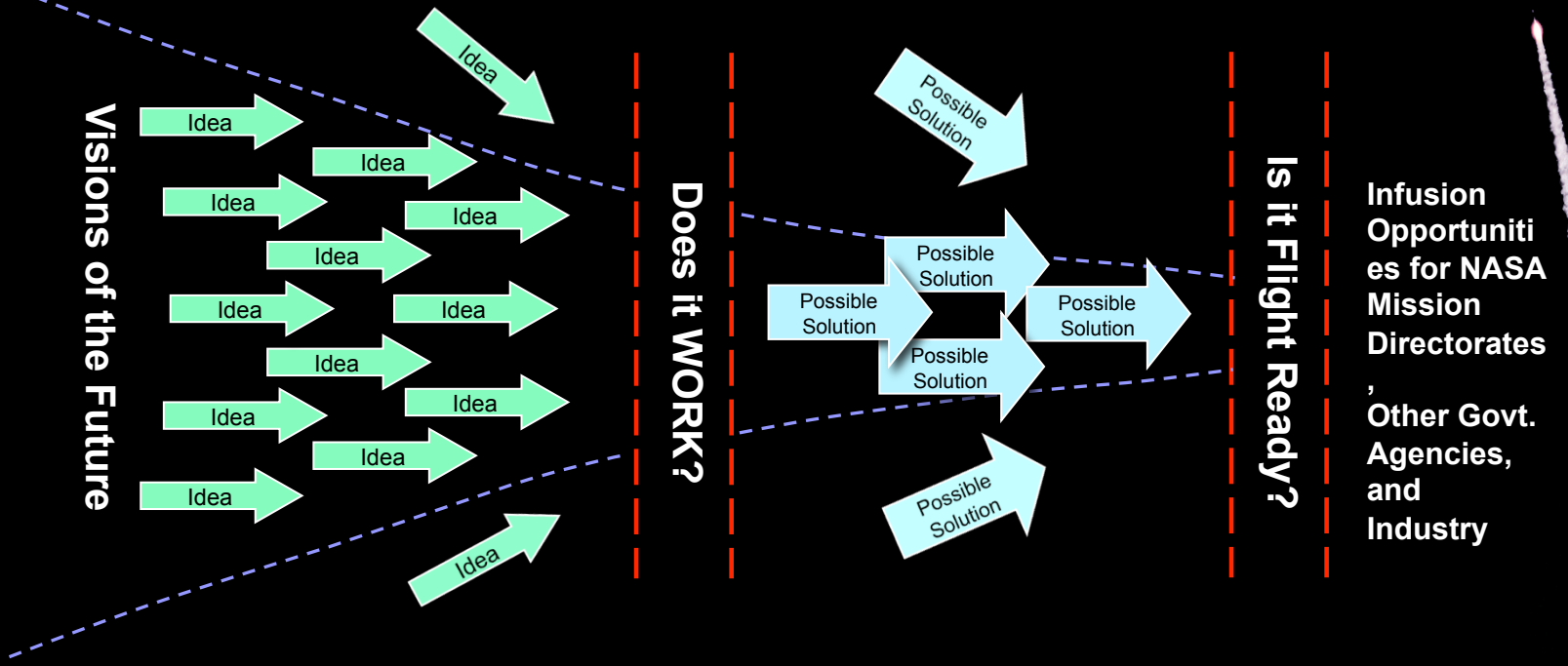


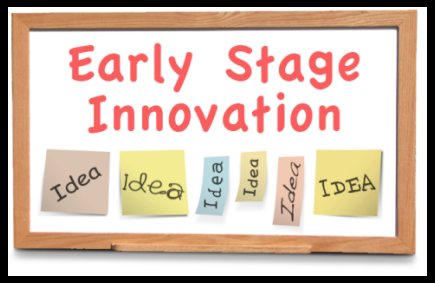
Aerospace Structural & Material Concepts

The spectrum of innovation



NASA Space Technology





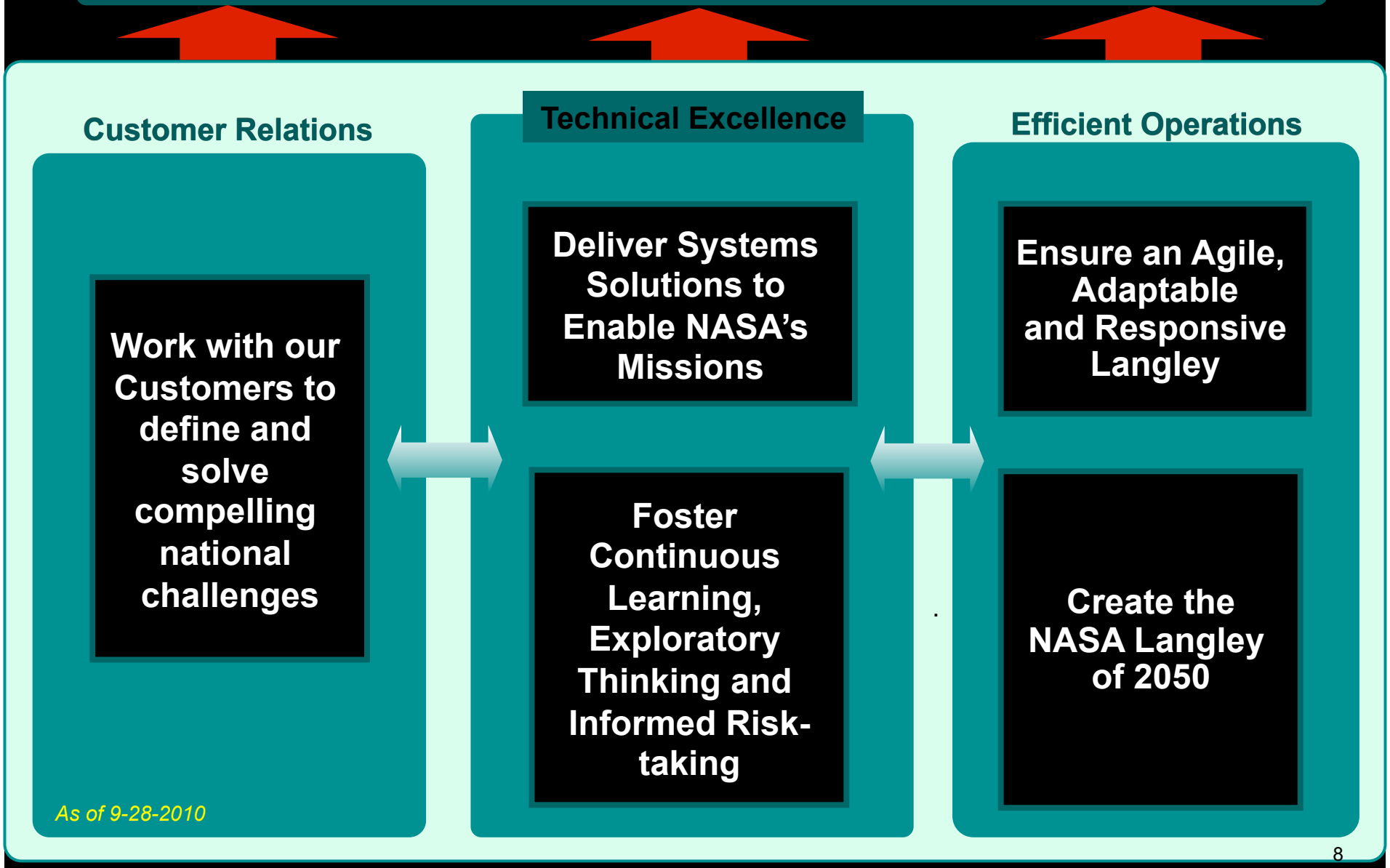
Creative ideas regarding future NASA systems or solutions to national needs.

Prove feasibility of novel, early-stage ideas with potential to revolutionize a future NASA mission and/or fulfill national need.

Mature crosscutting capabilities that advance multiple future space missions to flight readiness status

NASA Langley's Mission Success

Deliver on Today's Commitments and Prepare for Tomorrow's Opportunities



Langley Strategy Teams

RTCs

Inform R&D direction based on aerospace-related science and technology horizon.

Planning Time Horizon:
25 – 30 years

SOTs

Foster advocacy and identify opportunities for LaRC in new business markets.

Planning Time Horizon:
1 year

IOTs

Develop technical content for input to near-term program planning activity.

Planning Time Horizon:
1 – 2 months.

Grand Challenges

Make space part of mankind's natural environment...

Achieve economical, on-demand space access

Enable in-space commercial/ marketable services

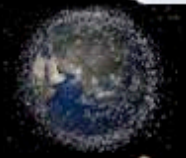
Improve spacecraft safety and protect astronaut health

Enable publically accessible virtual presence and exploration

...manage space as a natural resource...

Fully understand climate change and natural disasters

Portable and economical energy on demand



Understand and manage the near-earth environment

Invent tools of exploration that exploit in-situ resources

...and blaze our trail into the universe.

Understand laws of the universe

Discover life and earth–like worlds

Operate at the very limits of what is possible

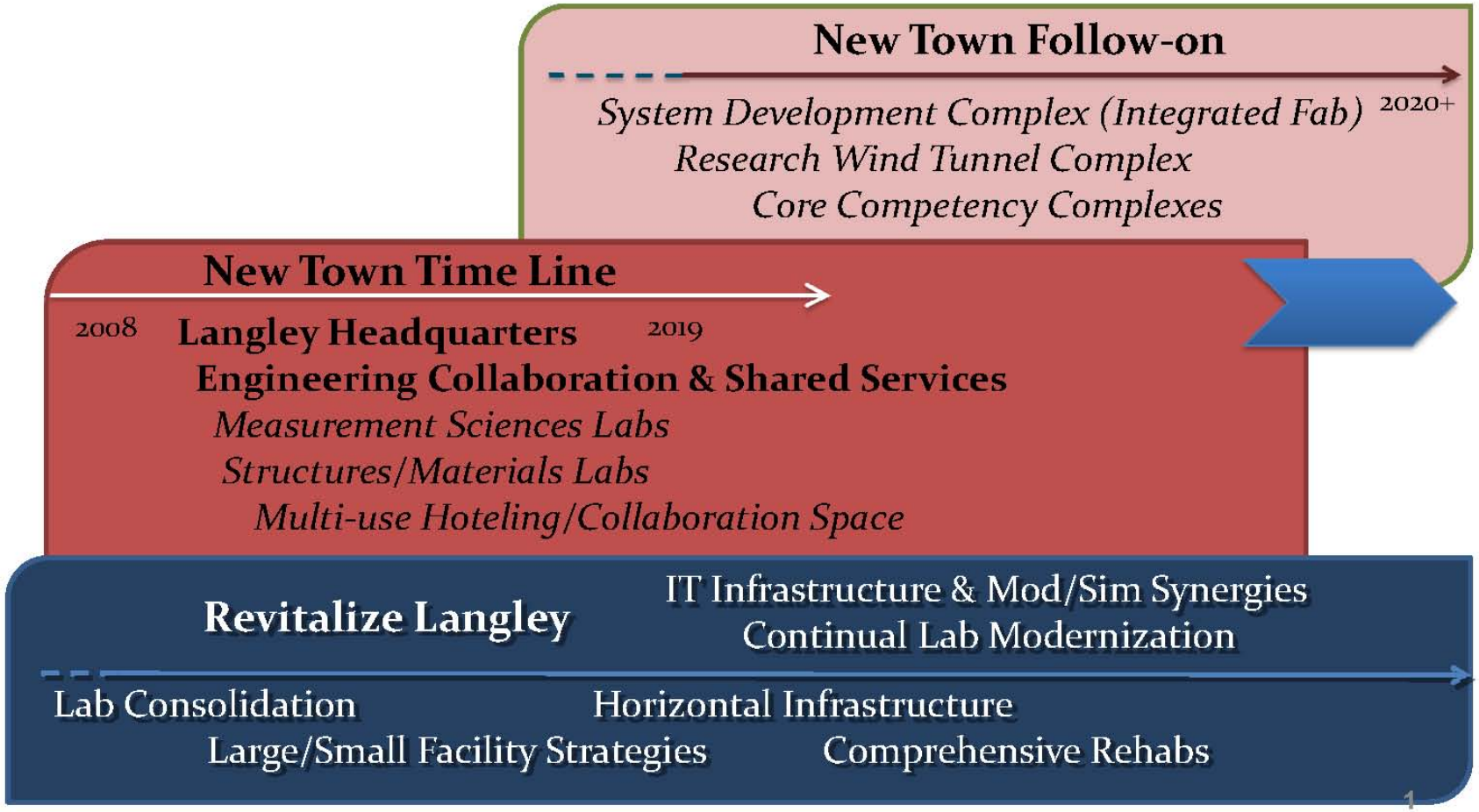
Where will your ideas take us?

What challenges will you add to this list?

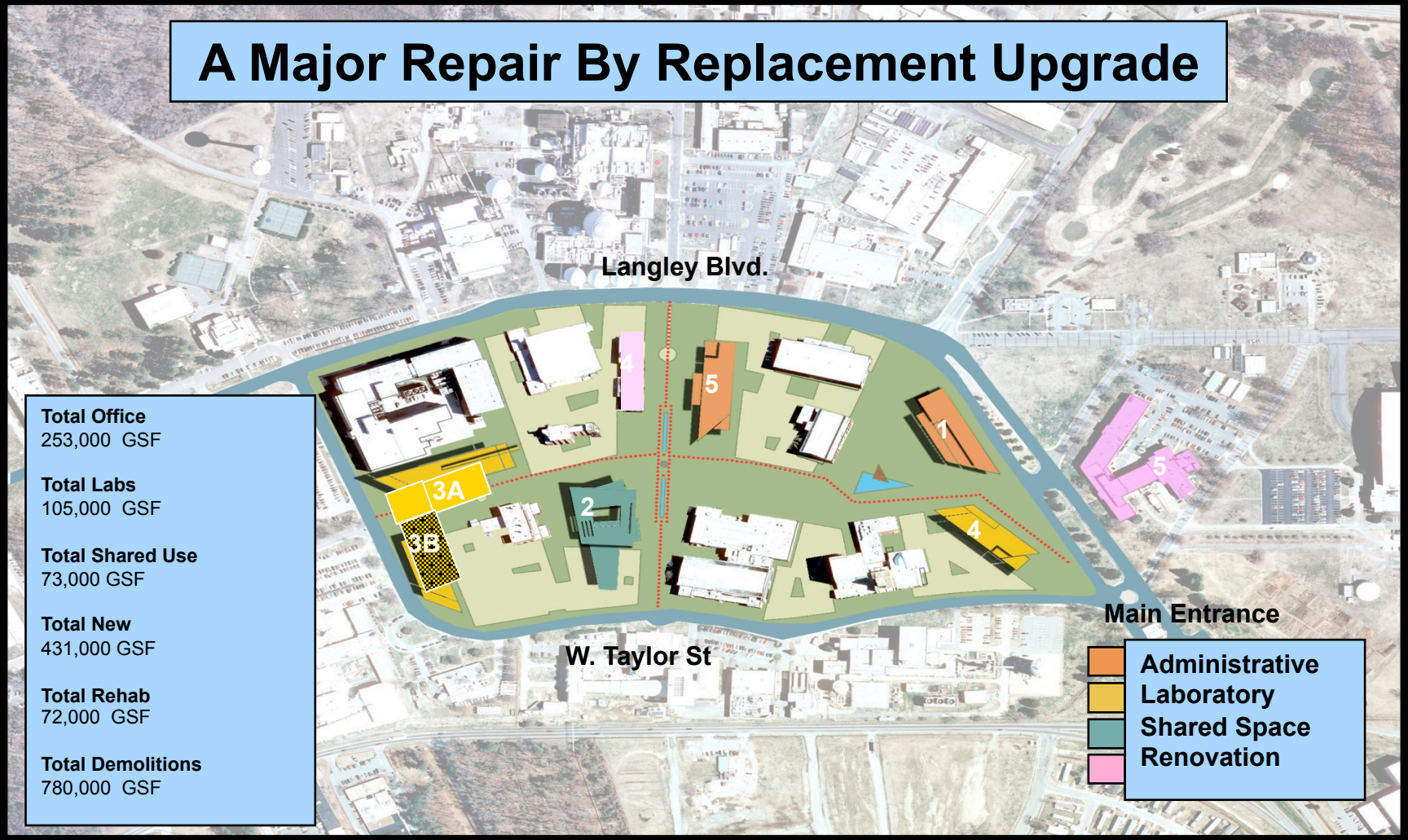
LaRC Master Plan – Final HQ Presentation – Aug 27, 2010

Building the Langley of the Future

"Renew, Modernize, Sustain, Consolidate → 21st Century Lab"

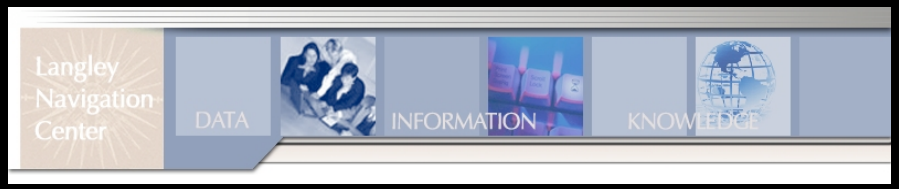


New Town Project



5 New Buildings, 2 Rehabilitated Buildings, 10 Demolished Buildings in Core Area
Personnel Directly Affected: 1200

What we are doing to encourage innovation …



facebook

YouTube

yammer

Lecture Series

Revolutionary Technical Challenges

Colloquiums

Organization Innovation

IOTs

TEDxYouthDay

[Individual *"Beyond the State of the Art"* Plans]

TEDx NASA

x = independently organized TED event

Creativity & Innovation Funds

Lunch & Learn

10% White Space

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